NWS FORM E-5 (11-88) (PRES. by NWS Instruction 10-924)	U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION NATIONAL WEATHER SERVICE	HYDROLOGIC SERVICE AREA (HSA) **WFO Jackson, Mississippi**
MONTHLY REPORT OF HYDROLOGIC CONDITIONS		REPORT FOR: MONTH: **May** YEAR: **2013**
TO: Hydrometeorological Information Center, W/OH2 NOAA / National Weather Service 1325 East West Highway, Room 7230 Silver Spring, MD 20910-3283		SIGNATURE **Alan E. Gerard, Meteorologist In-Charge** DATE **06/19/2013**

When no flooding occurs, include miscellaneous river conditions, such as significant rises, record low stages, ice conditions, snow cover, droughts, and hydrologic products issued (NWS Instruction 10-924)

☐ **An X inside this box indicates that no river flooding occurred within this hydrologic service area.**

Synopsis...

The month of May continued the unseasonably cool temperatures across the Hydrologic Service Area (HSA). Rainfall was well below normal across much of the Yazoo Delta Region, Southeast Arkansas, Northeast Louisiana north of I-20, and much of the Golden Triangle Region. Rainfall ranged from less than 50 percent to near 75 percent of normal. The remainder of the HSA had rainfall ranging from 75 to 200 percent of normal. At the Automated Observing Sites (ASOS) sites, rainfall ranged from 0.61 inches below normal at Greenville, MS to 2.33 inches above normal at Meridian, MS. Mean monthly temperatures at ASOS sites ranged from 2.2 degrees below normal at Meridian to 3.1 degrees below normal at Hattiesburg.

The month began with an upper level low pressure area over Southwest Louisiana. The low tracked across South Louisiana to Southeast Mississippi by the 2nd, bringing heavy rainfall of 1.00 to 5.50 inches to much of Southeast Mississippi, portions of East Mississippi, and portions of Northeast Louisiana. Light to moderate rainfall from 0.25 to 1.00 inch was reported elsewhere. This was followed by a cold front that moved across the HSA bringing much colder continental air to the region on the 3rd. All six primary climate sites in the HSA either tied or set new all-time May record low temperatures on the 4th. The front brought from 0.50 to 2.50 inches to areas north of Interstate 20 and lesser amounts south of Interstate 20. Behind the surface front, a deep upper level closed low pressure center moved from the Plain States on the 3rd, to North Mississippi, and then to the Carolina's by the morning of the 7th. This brought additional light showers with amounts ranging from 0.25 to 1.00 inch to portions of our north and northeast HSA from the 4th to 6th.

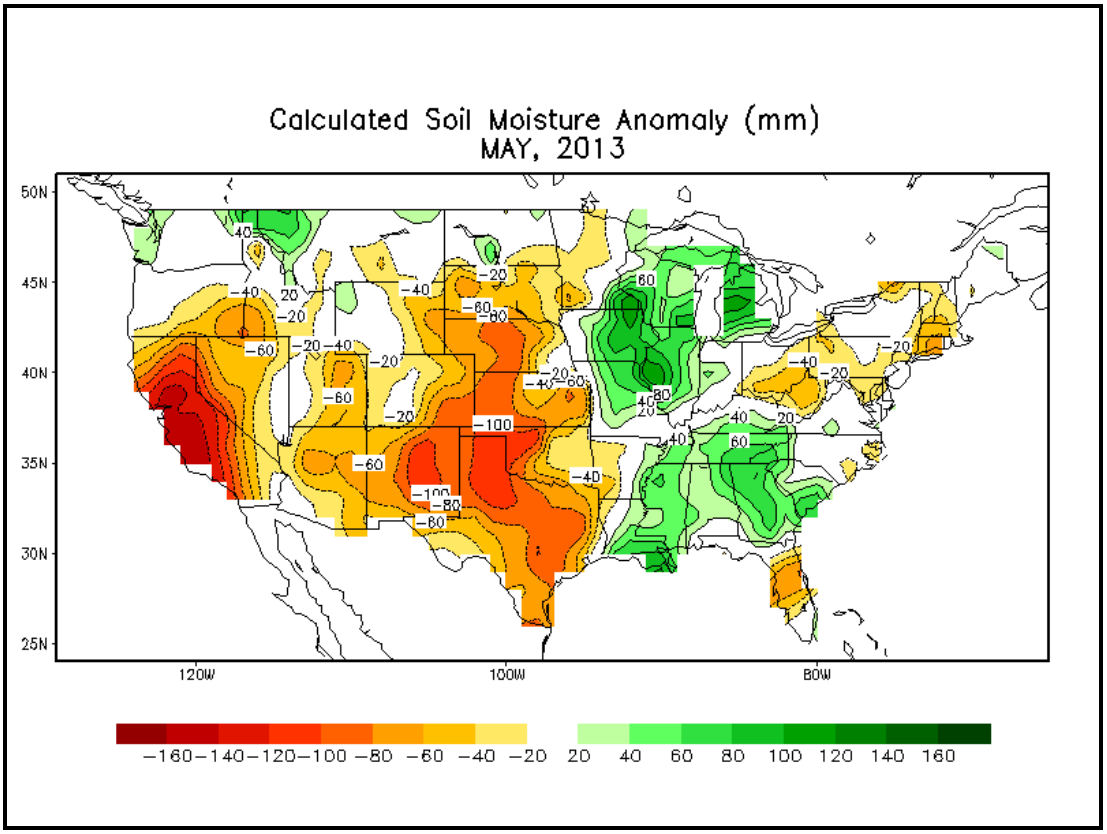
By the 7th, surface high pressure began to move to the east. Southerly flow on the 8th allowed for a significant warm up. By late on the 10th, a cold front began moving across the region. The front pushed off the Mississippi Coast by the morning of the 12th, allowing high pressure with cooler, drier weather to build into the HSA. Rainfall for this event ranged from 1.00 to 4.00 inches across the area.

High pressure remained in place through the 15th. Southerly flow developed ahead of an upper level disturbance that moved across North Mississippi from the 16th to the morning of the 18th. Flash flooding was reported in Grenada, MS on the 17th, while golf ball size hail was reported in Clay County on the morning of the 18th. Rainfall was light and scattered over central and southern portions of the HSA through the period. More widespread rainfall, ranging from 0.50 to 4.00 inches, was reported across our northern most counties. Southerly flow continued on the 19th through the 21st ahead of a cold front. A line of storms pushed across the region during the afternoon and evening of the 21st and early on the 22nd. Downed trees and powers lines were reported north and west of a line from Natchez to Forest to Starkville. The cold front finally pushed through the region on the 23rd, bringing high pressure and cooler, drier conditions. Rainfall ranged from 0.50 to 3.00 inches from the 21st through the 23rd. High pressure moved into the HSA through the 26th.

High pressure shifted eastward allowing a return flow regime to set up through the end of the month. Typical summer time afternoon showers and thunderstorms were common on the 30th and 31st. Isolated to scattered showers were reported across the HSA with amounts ranging from 0.25 to 1.50 inches.

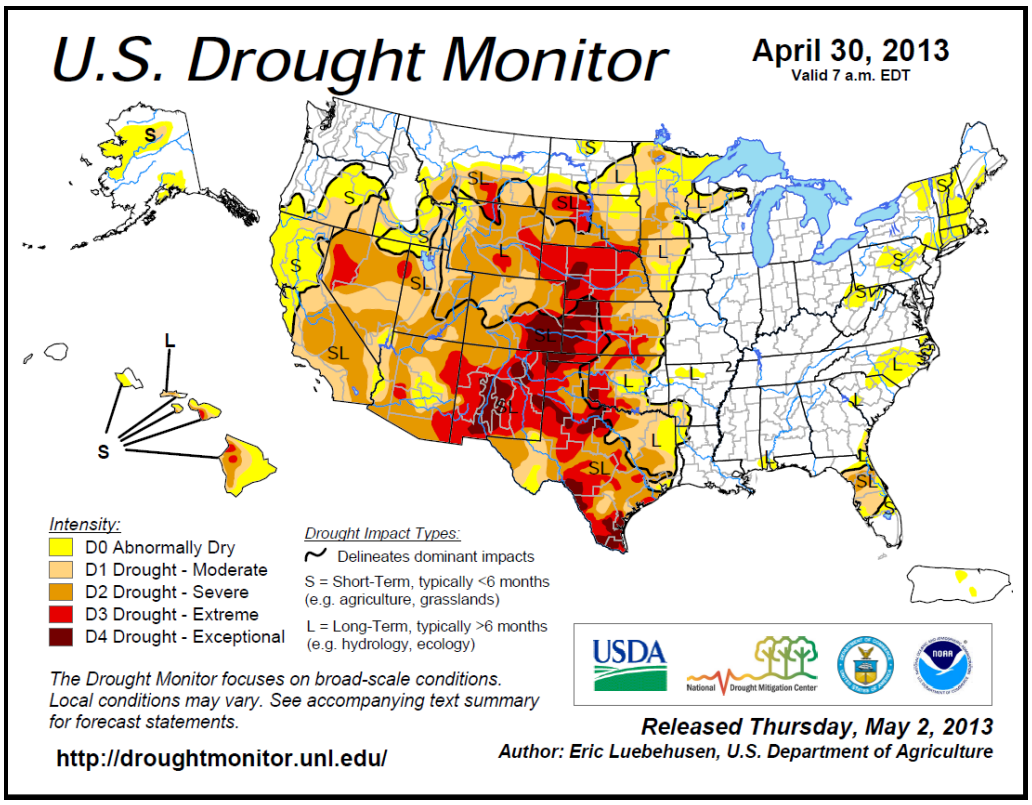
River and Soil Conditions...

Soil Moisture Map:

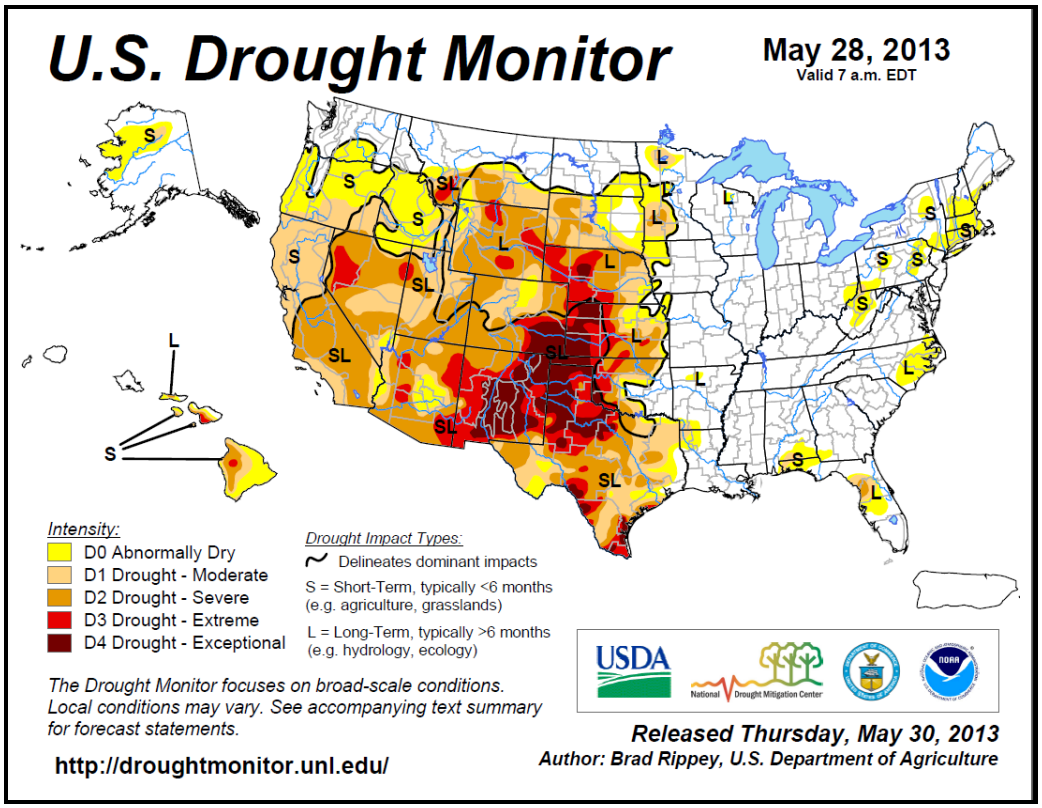


May 2013

Drought Comparison to prior month:



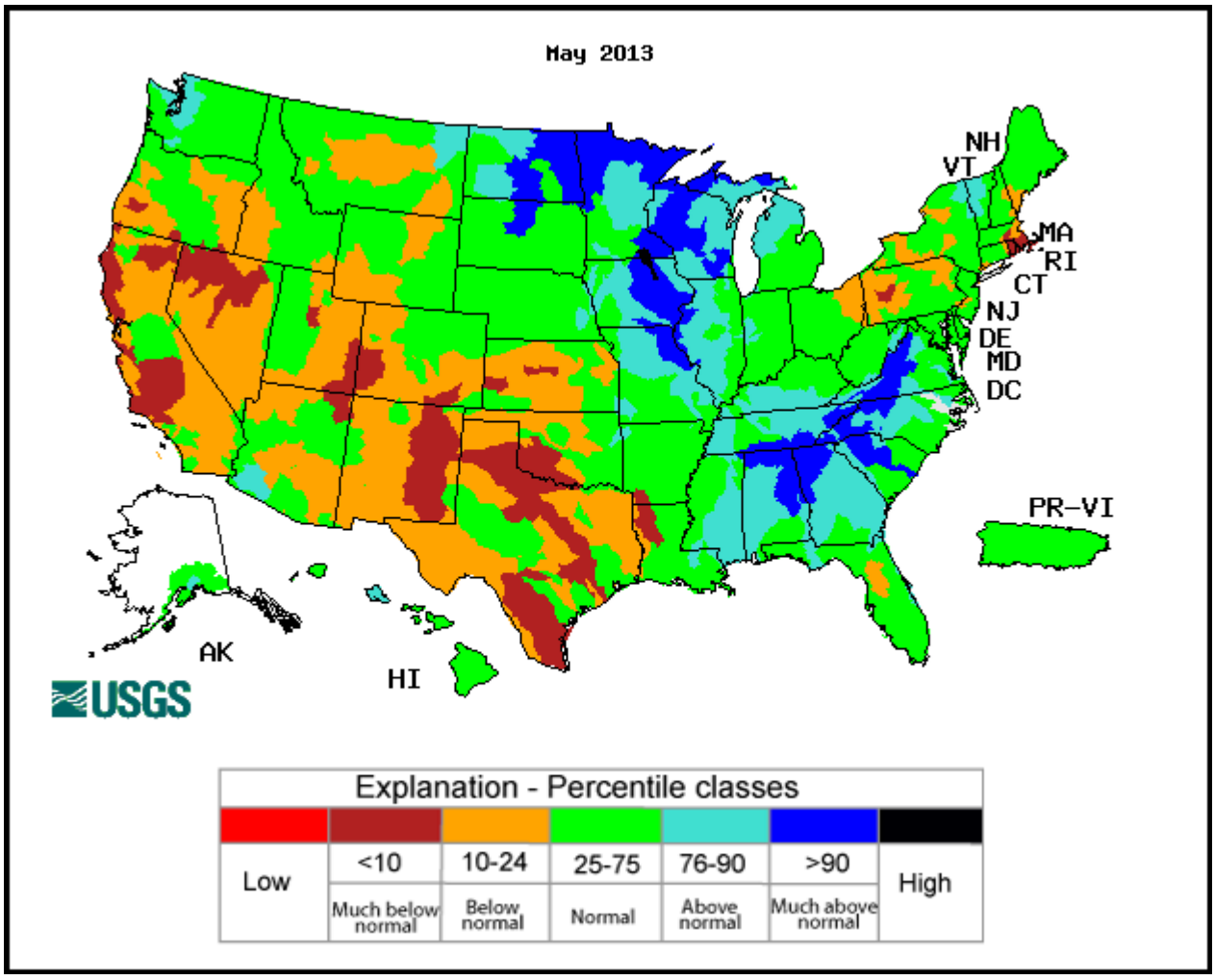
April 30, 2013



May 28, 2013

Streamflow:

The United States Geological Survey's (USGS) May 2013 river streamflow records were compared with all historical May streamflow records. Streamflow was above normal across the Pearl River, Pascagoula, Tombigbee River Basin and near normal across the remainder of the Hydrologic Service Area (HSA)



April 2013 Streamflow

River Conditions and flood potential:

Heavy rainfall from an upper low and cold front during the first few days of the month pushed much of the Upper Pearl River and its tributaries (Yockanookany and Tuscolameta Creek) above flood stage. This rainfall also caused the Tallahala Creek, Upper Chickasawhay, and Big Black River to rise above flood stage. High water from the rainfall at the beginning of the month and locally heavy rainfall around the 11th pushed the Lower Pearl River above flood stage. Remaining river systems had minor to moderate below flood stage rises.

Significant rainfall in April and heavy rainfall from 6.00 to 12.00 inches across much of the Upper Mississippi River during the month of May produced minor flooding along the Lower Mississippi River from Greenville to Natchez.

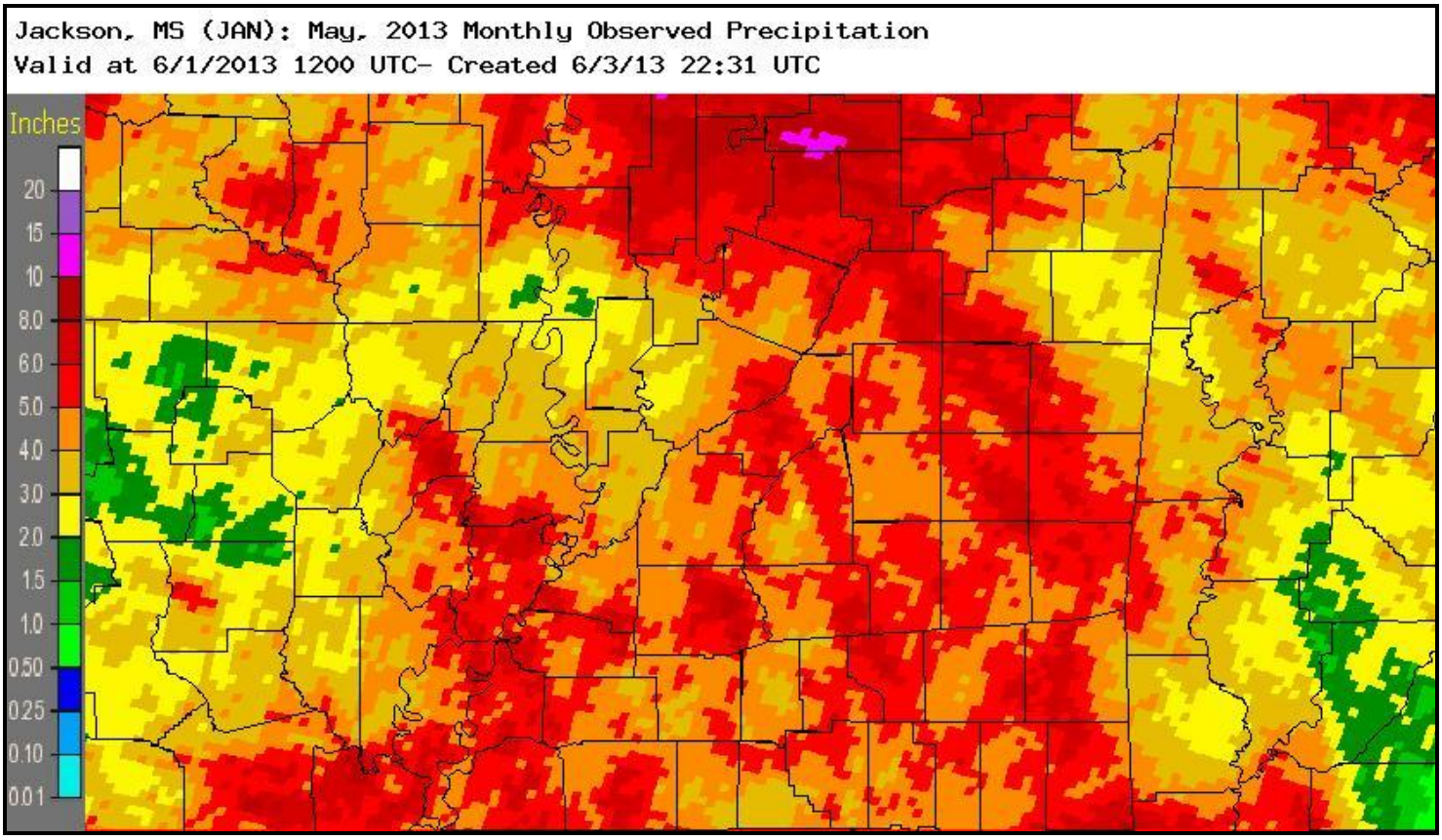
The climatic outlook for the next 3 months shows above normal temperatures and above normal rainfall across much of the HSA. The only exception was across northern portions of Northeast Louisiana, Southeast Arkansas, Northwest Mississippi, and the Mississippi River Valley where there are even chances for above or below normal rainfall.

Based on current soil moisture, streamflow, and the 3 month weather outlooks, flood potentials are as follows:

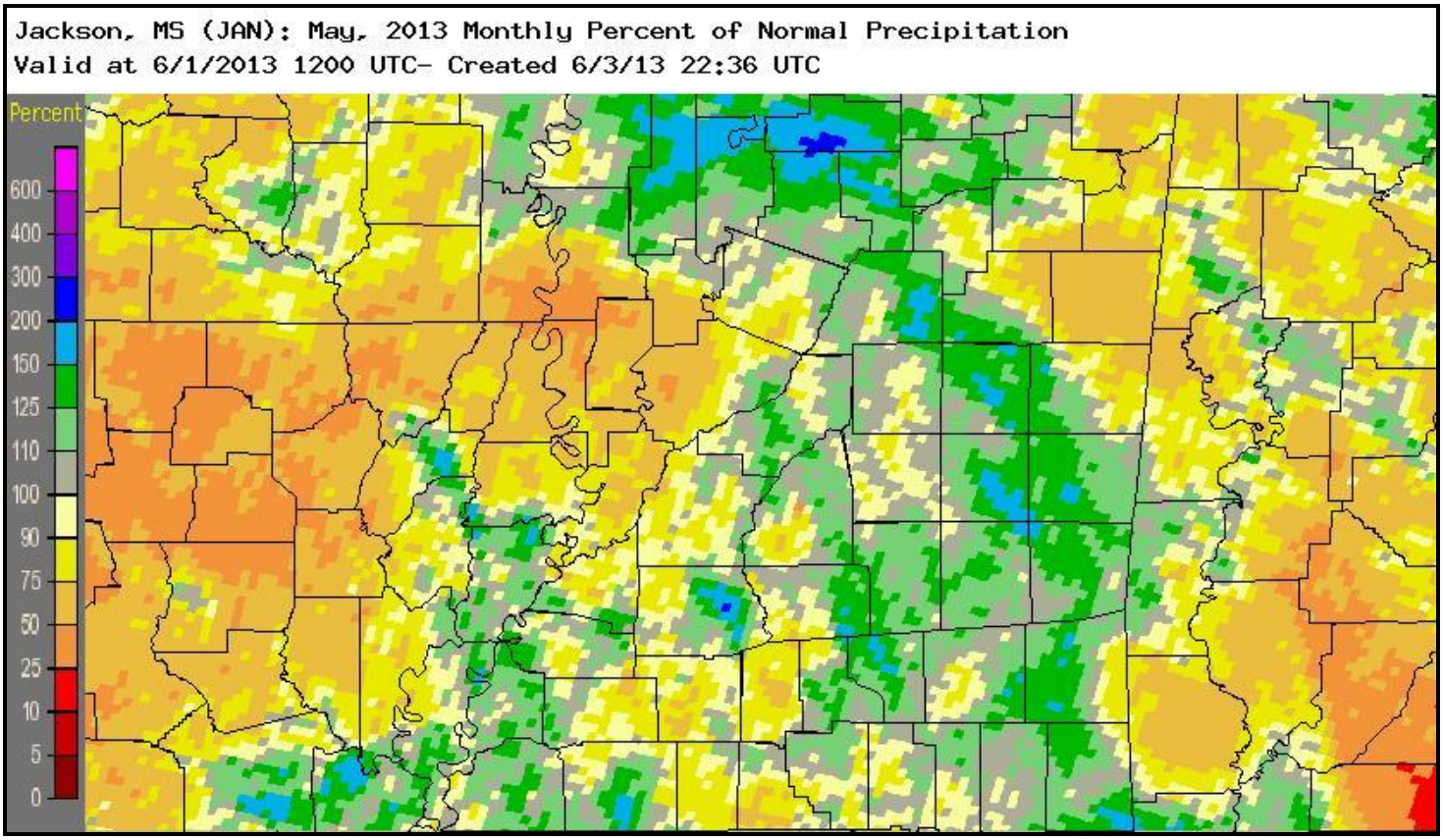
***Pearl River System*:**	**Average.**
***Yazoo River System*:**	**Average.**
***Big Black River System*:**	**Average.**
***Homochitto River System*:**	**Average.**
***Pascagoula River System*:**	**Average.**
***Northeast LA and Southeast AR*:**	**Average.**
***Tombigbee River System*:**	**Average.**
Mississippi River:	**Above Average.**

Rainfall for the month of April:

The largest rainfall amounts in the HSA from NWS Cooperative Observer reports during the period from 7 am on April 30th until 7 am on May 31st were: 11.60 inches at Grenada, MS; 9.17 inches at Bay Springs, MS; 8.90 inches at Clinton, MS; 8.80 inches at Hazlehurst, MS; 8.66 inches at Crystal Springs, MS; 8.48 inches at Philadelphia, MS; 8.39 inches at Elliot, MS; 8.20 inches at Brandon, MS; 7.93 inches at Newton, MS; and 7.79 inches at Cleveland, MS.



May 2013 Rainfall Estimates



May 2013 Percent of Normal Rainfall Estimates

Note: Observer rainfall and MPE may differ due to time differences.

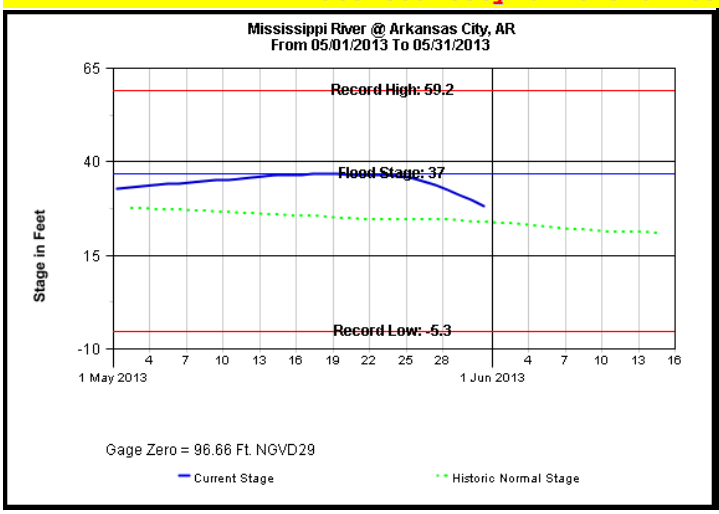
May rainfall for Selected Cities...

City (Airport)	May Rainfall	Departure from normal	2013 Rainfall	2013 Departure from Normal
Jackson, MS	5.29	+0.91	33.06	+8.95
Meridian, MS	6.83	+2.33	34.63	+9.20
Greenwood, MS	6.28	+1.33	30.41	+7.08
Greenville, MS	4.30	-0.61	24.96	+0.70
Hattiesburg, MS	6.24	+1.26	37.21	+10.67
Vicksburg, MS	5.08	+0.12	35.32	+10.02

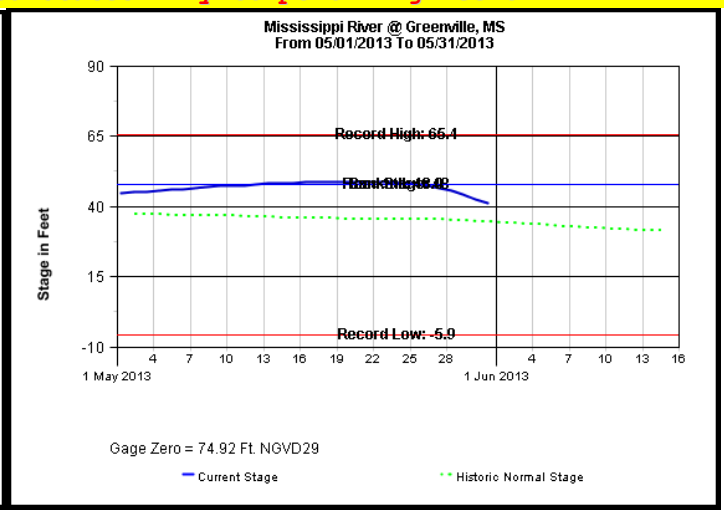
Mississippi River...

Mississippi River Plots for May, 2013

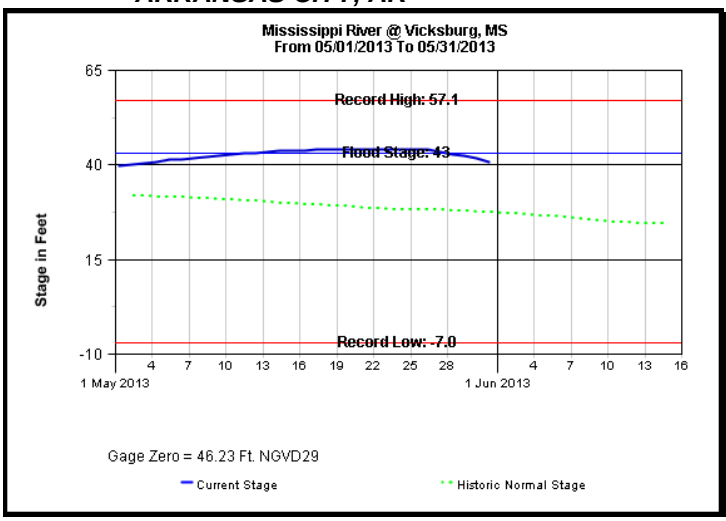
Plots Courtesy of the United States Army Corps of Engineers



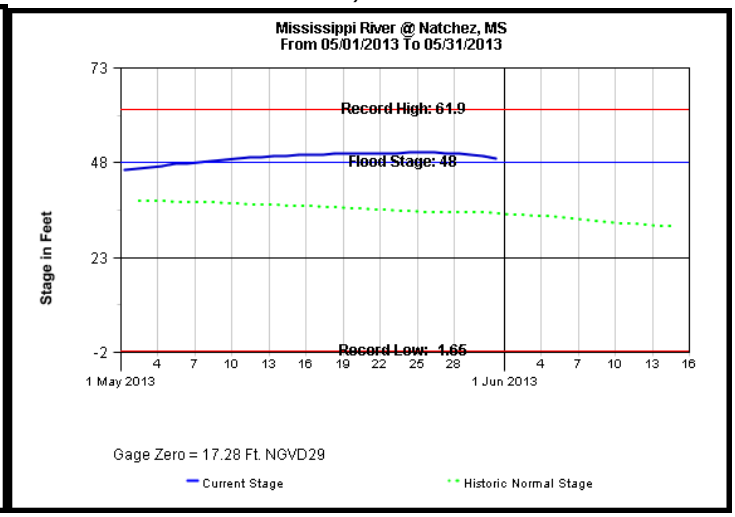
ARKANSAS CITY, AR



GREENVILLE, MS



VICKSBURG, MS



NATCHEZ, MS

Preliminary high and low stages for the month:

Location	FS	High Stage(ft)	Date	Low Stage(ft)	Date
Arkansas City, AR	37	36.84	05/19/13	27.53	05/01/13
Greenville, MS	48	48.84	05/19/13	40.25	05/01/13
Vicksburg, MS	43	44.33	05/23/13	39.60	05/01/13
Natchez, MS	48	50.72	05/25/13	45.98	05/01/13

Total Flood Warning products issued: 21
Total Flood Statement products issued: 204
Total Flood Advisories MS River : 40
Daily Climate and Ag WX Products (AGO'S) issued: 31
Daily CoCoRaHS Rainfall Products (LCO'S) issued: 31
Daily River and Lake Summary Products (RVD'S) issued: 31

Marty V. Pope
Service Hydrologist &
Latrice Maxie
Assistant Hydrologist/Observing Program Leader (OPL)

Note: Provisional stage and precipitation data were furnished with the cooperation of the Mississippi, Louisiana, and Arkansas National Weather Service Cooperative Observer Programs, United States Geological Survey (USGS), United States Army Corps of Engineers (USACE), Pearl River Valley Water Supply District (PRVWSD), Pat Harrison Waterway District, Pearl River Basin Development District, and the Mississippi Department of Environmental Quality.

cc: USGS Little Rock District
USGS Ruston District
USACE Mobile District
USACE Vicksburg District
USACE Mississippi Valley Division
USGS Mississippi District
SRH Climate, Weather and Water Division
Lower Mississippi River Forecast Center
Pearl River Valley Water Supply District
Hydrologic Information Center
Southern Region Climate Center
Pat Harrison Waterway District
Pearl River Basin Development District